



## MMR Vaccine and Autism: A Report from the Institutes of Medicine

Public confidence in our immunization programs is essential to the nation's public health. Issues involving the safety of vaccines, particularly childhood vaccines, continue to concern some members of the public, health care professionals, the public health community, the media, Congress, vaccine manufacturers, and federal agencies.

In response to these concerns, the Centers for Disease Control and Prevention and the National Institutes of Health have asked the National Academy of Sciences - Institute of Medicine (IOM) to establish an independent expert committee to review hypotheses about existing and emerging immunization safety concerns. The first of these reviews was an examination of the possible link between the use of the Measles, Mumps, and Rubella (MMR) vaccine and autism. The Immunization Safety Review Committee is composed of 15 expert members from pediatrics, neurology, immunology, internal medicine, infectious diseases, genetics, epidemiology, biostatistics, risk perception and communication, decision analysis, public health, nursing, and ethics. To eliminate any real or perceived notion the committee members were selected on the basis of a strict criteria to eliminate any potential or perceived conflict of interest.

The committee used both private and public meetings to review the current understanding of the etiology and epidemiology of autism and investigate the MMR vaccine and autism hypothesis.

The report of this committee was issued by the Institute of Medicine on Monday, April 23, 2001.

### **Conclusions of IOM report**

The Committee concluded that the vast majority of cases of autism cannot be caused by MMR vaccine. The Committee's conclusion means that MMR cannot explain the recent increasing trends in autism diagnoses.

While the available information does not implicate MMR as a cause of individual cases of autism, the information is insufficient to totally exclude MMR as a cause of autism in rare instances. No epidemiologic study or clinical trial can ever establish that a vaccine is absolutely safe or that a particular vaccine reaction never occurs.

The Committee concluded that there was no need to review the existing recommendations for universal use of MMR at 12-15 months of age and 4-6 years of age. The Committee's conclusion upholds the current policy of giving the MMR vaccine as one instead of three separate injections.

The Public Health Service agencies consider this report prepared by a carefully selected, independent panel of scientists convened by the Institute of Medicine to be a major step forward in addressing concerns about the safety of MMR vaccine. Open meetings were held in March, 2001 to review the current understanding of the etiology and epidemiology of autism and investigate the MMR vaccine and autism hypothesis.

## **Recommendations of the IOM report**

The IOM report made a number of other important recommendations regarding research and communications.

The research recommendations included the following: use accepted case definitions and protocols to enhance the comparability of results from studies; explore whether exposure to MMR vaccine is a risk factor for a small number of children; develop targeted investigations for the measles vaccine-strain is present in the children with autism; encourage more detailed Vaccine Adverse Event Reporting System (VAERS) reports; study the possible effects of different immunization exposures; and conduct further clinical and epidemiological studies of sufficient rigor to identify risk factors and biological markers.

The Committee also recommended that the public health service agencies including the CDC and FDA review some of their most prominent forms of communication including the ease at which information can be accessed on the Internet.

## **Next steps related to the IOM report**

The Public Health Service agencies believe that review of these concerns by such an independent expert panel will contribute to maintaining public confidence in our national immunization program and assuring the continued protection of US children against vaccine preventable diseases in an effective and safe manner. The recommendations made by this expert panel are under review by CDC and the other agencies.

The report can be viewed at

<http://www.iom.edu/IOM/IOMHome.nsf/Pages/MMR+Autism+Summary>